APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/448,679	11/24/1999	CHRISTOPHER J. LORD	INTL-0252-US	5314

7590   01/13/2003

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ART UNIT	PAPER NUMBER
2614	7

DATE MAILED: 01/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

		Application No.	Applicant(s)
Advisory Action		09/448,679	LORD ET AL.
		Examiner	**Art Unit**
		Trang U. Tran	2614

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 27 December 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may <u>only</u> be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

<u>PERIOD FOR REPLY</u> [check either a) or b)]

a) ☒ The period for reply expires <u>3</u> months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☐ The proposed amendment(s) will not be entered because:

    (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

    (b) ☐ they raise the issue of new matter (see Note below);

    (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

    (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.
    NOTE: _____.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☒ The a)☐ affidavit, b)☐ exhibit, or c)☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: *see attachment*.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☒ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

    The status of the claim(s) is (or will be) as follows:

    Claim(s) allowed: _____.

    Claim(s) objected to: *6-8,13,14,21,23 and 24*.

    Claim(s) rejected: *1-5, 9-12, 15-20, 22 and 25-30*.

    Claim(s) withdrawn from consideration: _____.

8. ☐ The proposed drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10. ☐ Other: _____

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed Dec. 27, 2002 have been fully considered but they are not persuasive.

In re pages 1-2, applicants argue that, with respect to claim 1, Acharya does not disclose a method in which "identifying noise in a first portion of the video frame" and "replacing the first portion with a second portion of the video frame" as recited in claim 1.

In response, the examiner respectfully disagrees. Acharya discloses in col. 1, lines 18-22 that "the properties and characteristics that would indicate that a pixel or region of pixels or region is "noisy" and the properties that would indicate a pixel or region of pixels is an edge or a fine detail of the image are difficult to distinguish". As recognized by applicants, Acharya et al determines whether a pixel is an edge or non-edge pixel. Since the "noisy" pixel and an edge pixel are difficult to distinguish, Acharya et al determines whether a pixel is an edge or non-edge pixel and also identifies noise (edge pixel) in a first portion of the video frame.

Additionally, Acharya et al discloses in col. 9, lines 55-58 that "Alternatively, it may be desirable to use the dark current or reference pixels (of which there are usually several rows and columns) to substitute for missing values for edge pixels". From the above passage, it is clear that the claimed "replacing the first portion with a second portion of the video frame" is anticipated by the capability of substituting of the missing

values of edge pixels for the reference pixels (of which there are usually several rows

and columns) of Acharya et al.

In re page 2, applicants argue that dependent claim 2 is patentable over Acharya

as Acharya does not disclose "associating a noise level with the first portion of the video

frame" and "comparing the noise level to a predetermined value" because determining a

gradient value for each pixel in Acharya is not "associated a noise level" with a portion

of the video frame and comparing gradient information to a threshold disclosed in

Acharya is not "comparing the noise level to a predetermined value".

In response, the examiner respectfully disagrees. As discussed above with

respect to claim 1, the "noisy" pixel and an edge pixel are difficult to distinguish.

Acharya et al discloses in col. 5, lines 12-17 that "the gradient (or normalized gradient)

is compared against that threshold value (step 140). If the gradient (or normalized

gradient) exceeds the threshold value, the corresponding pixel can be classified as an

"edge" pixel which is a pixel that belongs to a edge feature of the image such as a line".

Since the "noisy" pixel and an edge pixel are difficult to distinguish, the level of the

gradient used for determining the "noisy" pixel by comparing the gradient against the

threshold value of Acharya et al anticipates the claimed "noise level". Thus, Acharya et

al does indeed disclose the claimed "associating a noise level with the first portion of the

video frame" (gradient) and "comparing the noise level to a predetermined value"

(comparing the gradient against threshold value).

In re pages 2-3, applicants argue that, for similar reasons as discussed above as

to claim 1, claim 9 is patentable over Acharya, as nowhere does Acharya disclose a

system having a software program that "replaces the first portion of the video frame with a second portion of the video frame," as recited in claim 9 and the portion of the specification relied upon by the Office Action, namely col. 13, line 45, through col. 14, line 60, does not disclose, at least, a storage medium that includes a software program that, upon execution "replaces a first portion of the video frame with a second portion of the video frame," as discussed above.

In response, the examiner respectfully disagrees. Acharya et al discloses in col. 13, lines 45-58 that "The methodology described in **the various embodiments of the invention may be executed using a processor 712 such as the Pentium (a product of Intel Corporation) and a memory 711, such as RAM, which is used to store/load instruction, addresses and result data**. The application used to perform noise removal on the CFA image may be an executable module compiled from source written in a language such as C++. **The instruction of that executable module, which correspond with instructions that aid in detecting edges and applying a first noise removal technique for edge pixels and a second noise removal technique for non-edge pixels may be stored to a disk 718 or memory 711, and thus may be loaded through some computer-readable medium**" and, as discussed above with respect to claim 1, the claimed "replaces the first portion of the video frame with a second portion of the video frame" is disclosed in col. 9, lines 55-58 of Acharya et al. Thus, the disk 718 or memory 711 of Acharya et al anticipates the claimed "a storage medium that includes a software program that, upon execution replaces a first portion of the video frame with a second portion of the video frame" as recited in claim 9.

In re page 3, applicants argue that, with respect to claim 10, nowhere does Acharya disclose a "software program [that] writes to the memory to replace the first portion of the video frame" and claim 11 patentably distinguishes over Acharya for the further reason discussed above regarding claim 2.

In response, as discussed above with respect to claim 9, the software program stored in memory 711 of Acharya et al that writes to the memory to replace the first portion of the video frame. As discussed above with respect to claim 2, Acharya et al disclose all the limitations of claim 2.

In re page 3-4, applicants argue that, with respect to claim 25, as nowhere does Acharya disclose "replacing the first portion of the video frame with one of the second portion, the first adjacent portion or the second adjacent portion if a comparison between the first result and the second result is indicative of noise".

In re page 4, applicants argue that, with respect to claim 27, nowhere does Acharya et al disclose "calculating a first threshold based on an amount of the plurality of units per the respective portion".

In response, the examiner respectfully disagrees. Acharya et al discloses in col. 4, lines 43-65 the claimed "calculating a first threshold (normalized gradient) based on an amount of the plurality of units per the respective portion (dividing the gradient by the maximum gradient in the entire image".

In re page 4, applicants argue that, with regard to dependent claim 28, nowhere does Acharya disclose that the first and second results "comprise a sum of absolute differences".

In response, the examiner respectfully disagrees. Acharya et al discloses the claimed first and second results "comprise a sum of absolute differences" in col. 6, lines 10-49 (the resultant differential Δx).

2.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Trang U. Tran** whose telephone number is **(703) 305-0090.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W. Miller,** can be reached at **(703) 305-4795.**

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

TT TT
January 10, 2003

**JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**